

ABSTRACT

A multi-layer piezoelectric element of high reliability and high durability, that undergoes smaller variations in the amount of displacement even when used under a high electric field and high pressure and is subject to less variations in the amount of displacement even when used in continuous operation over a long period of time is provided. The multi-layer piezoelectric element comprises a stack formed by stacking piezoelectric layers and internal electrodes alternately one on another and external electrodes formed on a first side face and on a second side face of the stack, wherein one of the adjacent internal electrodes is connected to the external electrode on the first side face and the other internal electrode is connected to the external electrode formed on the second side face, while the ratio of change in the amount of displacement of the element after undergoing continuous operation of 1×10^9 cycles or more to the initial device dimension is not larger than 5%.